

CLAIMS

1. A solid form of sildenafil citrate wherein the ratio of sildenafil : citrate is about 1 : about 0.5.
2. A hydrated solid form according to claim 1.
3. A hydrated solid form according to claim 2 wherein the amount of water present in the solid form is between about 4% and about 7% of dry weight of the solid.
4. A hydrated solid form of sildenafil hemi-citrate having a powder X-ray diffraction (PXRD) pattern with main peaks substantially as defined below:

Angle (2-Theta)	Relative Intensity	Angle (2-Theta)	Relative Intensity
5.899	71.1	25.075	33.6
7.19	25.9	25.565	16
7.905	100	26.086	23.9
10.523	14.4	26.506	36.8
11.905	21.2	27.356	27.2
13.25	16.9	28.24	15.9
13.893	83.7	29.02	15.3
14.371	50.9	29.207	17
15.104	15.1	29.799	16.5
15.373	17.9	29.926	19
15.948	18.1	30.361	13

16.431	20.1	31.01	13.2
17.221	64	31.891	14.6
17.812	25	32.556	15.3
18.668	14.2	33.073	12.5
19.492	15.8	33.4	16.2
20.38	18	33.768	12.8
20.708	32.6	34.219	13.7
21.318	23.5	34.38	13.3
21.5	22.4	34.752	13.9
22.256	17.8	35.332	14.1
22.493	22	36.115	13.3
22.86	23.2	37.122	15.1
23.415	21.3	37.514	15.7
23.86	24.7	38.69	13.3
24.145	45.1	39.009	12.8

wherein said PXRD pattern is generated using $\text{CuK}\alpha_1$ radiation at a wavelength of 1.5406\AA and at ambient temperature and humidity.

5. A hydrated solid form of sildenafil hemi-citrate having a powder X-ray diffraction (PXRD) pattern with main peaks substantially as defined below:

Angle (2-Theta)	Relative Intensity
5.899	71.1
7.905	100
13.893	83.7

14.371	50.9
17.221	64
20.708	32.6
24.145	45.1
25.075	33.6
26.506	36.8
27.356	27.2

wherein said PXRD pattern is generated using $\text{CuK}\alpha_1$ radiation at a wavelength of 1.5406\AA and at ambient temperature and humidity.

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6. A hydrated solid form of sildenafil citrate according to any of claims 2 or 3 wherein the hydrated solid form is a hemi-citrate having a PXRD pattern as defined in claims 4 or 5.

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7. A hydrated solid form according to claim 2 wherein the amount of water present in the solid form is between about 12% and about 14% of dry weight of the solid.

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8. A hydrated solid form of sildenafil hemi-citrate having a powder X-ray diffraction (PXRD) pattern with main peaks substantially as defined below:

Angle (2-Theta)	Relative Intensity	Angle (2-Theta)	Relative Intensity
5.525	48.1	25.587	21.1
7.387	22.3	25.845	19.3
7.671	10	26.279	21.2
10.561	35.9	26.885	19

11.125	11.1	27.16	11.9
13.524	10.8	27.44	13.5
14.004	50.8	27.68	46.4
14.764	25.6	27.92	26.2
15.162	38.4	28.295	17.4
15.298	30.4	29.085	10.3
15.787	11.5	30.464	19.7
16.56	100	30.875	11.1
19.329	15.2	31.046	11.2
20.214	43.7	31.959	13.8
20.777	18.5	33.4	11.1
20.943	28.1	33.6	13.1
21.112	28.6	34.087	10.8
21.457	18.5	35.094	11.7
21.605	19.8	36.4	10.2
22.25	15.1	36.579	11.3
23.117	10.5	37.339	10.6
23.727	15.1	38.624	10.2
24.096	23.9	39.148	18.4
24.576	20.3	39.608	12.2
24.998	17		

wherein said PXRD pattern is generated using $\text{CuK}\alpha_1$ radiation at a wavelength of 1.5406\AA and at ambient temperature and from 40 to 60% RH.

9. A hydrated solid form of sildenafil hemi-citrate having a powder X-ray diffraction (PXRD) pattern with main peaks substantially as defined below:

Angle (2-Theta)	Relative Intensity
5.525	48.1
10.561	35.9
14.004	50.8
15.162	38.4
15.298	30.4
16.56	100
20.214	43.7
20.943	28.1
21.112	28.6
27.68	46.4

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wherein said PXRD pattern is generated using $\text{CuK}\alpha_1$ radiation (wavelength = 1.5406\AA) at ambient temperature and 40 to 60% relative humidity.

- 10 10. A hydrated solid form of sildenafil citrate according to any of claims 2 or 7 wherein the hydrated solid form is a hemi-citrate having a PXRD pattern as defined in claim 8 or 9.
11. A solid form of sildenafil hemi-citrate according to claim 1 having a
15 powder X-ray diffraction (PXRD) pattern with main peaks substantially as defined below:

Angle (2-Theta)	Relative Intensity	Angle (2-Theta)	Relative Intensity
5.188	6.6	17.032	7.7
6.473	61.6	17.795	21.9
7.624	100	18.139	6.5
10.382	5.4	19.126	6.7
11.702	8.7	20.452	13.7
12.046	14.9	20.897	16.1
12.965	15.4	21.483	7
13.621	35.3	23.352	8.9
14.263	7.9	24.182	8.6
14.902	10.1	24.926	8.7
15.28	12	25.526	9.1
15.986	17.5	26.635	8.6
16.239	18.2	26.98	6.7

wherein said PXRD pattern is generated using $\text{CuK}\alpha_1$ radiation at a wavelength of 1.5406\AA under vacuum and at ambient temperature.

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12. A solid material as defined in any of Figures 10 to 17 herein.